

Remarks

This paper is responsive to the Examiner-initiated Interview Summary and the Notice of Non-Compliant Amendment (37 CFR 1.121) of June 19th, 2009. **The amendments filed to the specifications and to the claims in this paper are in reference to the original specification of 24 September 2003, as prescribed in the 2nd paragraph of the Examiner-initiated Interview Summary.**

The substitute specification and amended claims in this paper conforms to 37 CFR 1.121, 1.125 (b) and (c), and MPEP § 714.

Claims 1-38 are pending in this application.

Priority

Regarding the claim for priority, the Applicant acknowledges that the original Oath has the foreign priority section blank. However, the Applicant submitted DECLARATION (completed SB02 form) for claiming the priority on January 27, 2004 and the document is in the NPL dated: 02-03-2004 on the Image File Wrapper of the present application. The DECLARATION (completed SB02 form) identified the priority document (Canadian application number 2,440,173) and filing date (September 4th, 2003). The completed SB02 form is on page 13 of the NPL dated: 02-03-2004 and a certified copy of the priority document is on pages 14-73 of the NPL dated: 02-03-2004 both on the Image File Wrapper of the present application.

The United States patent laws, 35 U.S.C. 119 (a) and (b) states "An application for a patent filed in the United States by any person who has previously regularly filed an application for a patent for the same invention in a foreign country which affords similar privileges to citizens of the United States shall have the same effect as the same application would have if filed in the United States on the date on which the application for a patent for the same invention was first filed in such foreign country. This is the case, provided the application in the United States is filed within 12 months from the earliest date on which any such foreign application was filed and

claims priority under 35 U.S.C. 119(b) to the foreign application. Submitting a certified copy of the foreign application and the date of filing of the foreign application are required to secure this right of priority”.

For the present application (filed on September 24th, 2003), the request for
5 claiming the priority was filed and documented in the NPL dated February 3rd, 2004, approximately 5 months from the filing date of the priority application number 2,440,173 which was filed in Canada on September 4th, 2003.

On April 20th, 2005, following the publication of the present application (US 2005/0065805), the Applicant contacted Examiner Dean Nguyen (the Examiner on
10 record at the time) because the claiming of priority was not included in the document published on the USPTO website. Examiner Dean Nguyen requested from the Applicant to fax the information again to his fax number at 571-273-6806 and the general fax at 703-872-9306. This fax (5 pages) is in the NPL dated: 04-20-2005 on the Image File Wrapper of the present application. The 5 pages fax shows the
15 covering letter, dated January 27, 2004, for submitting IDS and for claiming the priority benefits; the DECLARATION (completed SB02 form) for claiming the priority of Canadian application number 2,440,173, filed on Sept. 4, 2003; a copy of the 1st page of the priority document (since the priority document is already in the NPL dated 02-03-2004 on the Image File Wrapper); and completed SB08 form for the
20 IDS. The 5 pages fax also shows the **USPTO date stamp** on the original submission dated February 3rd, 2004. Examiner Dean Nguyen acknowledges receipt of the fax and the Applicant considered the issue is closed.

Accordingly, the DECLARATION (completed SB02 form) for claiming the priority and the priority document are both in the NPL dated 02-03-2004 on the Image
25 File Wrapper of the present application. This means that, the request for claiming the priority was made approximately 5 months from the filing date of the priority document in Canada, that is less than 12 months from the filing date of the foreign application – the Canadian application was filed on September 4th, 2003.

Accordingly, Applicant respectfully requests acknowledgment of the claim
30 for priority under 35 U.S.C. § 119.

Specifications

Paragraphs [0009] to [0030], [0036] and [0037] are amended to improve clarity. *There are no new matters added to the amended paragraphs.*

Paragraphs [0061], [0067], [0068], [0069], [0087], [0094], [0097], [0151],
5 [0168], and [0169] are amended to correct *typographical* errors.

The ABSTRACT is amended for clarifying the nature and gist of the present invention.

For the Examiner's convenience the following are enclosed in this paper:

10 A clean copy of the amended specification is enclosed in Appendix C which begins on page 75 of this paper.

A copy of the original specification of 24 September 2003 is enclosed in Appendix D which begins on page 85 of this paper.

15

Claims

Claims 1-38 are pending in this application.

Claims 1-19 have been amended to improve clarity.

Claim 20 and claims 27-30 have been canceled without prejudice.

20 Claims 21-26 and 31-38 have been amended to improve clarity.

For the Examiner's convenience the following are enclosed in this paper:

A clean copy of the amended claims is enclosed in Appendix A which begins on page 56 of this paper.

25 A copy of the original claims of 24 September 2003 is enclosed in Appendix B which begins on page 67 of this paper.

There are no new matters added to the amended claims in this paper.

30

The rejection under 35 USC §101

Claims 1-38 have been rejected under 35 U.S.C. 101 because the Examiner asserts that the claimed invention is directed to non-statutory subject matter.

Applicant Arguments with regard to the rejection under 35 USC §101

Claims 1-19:

5 The subject matter of independent claim 1 as amended discloses a computer
program product comprising a computer-readable medium having stored thereon
instructions for causing a computer to perform a process for assessing business
solutions comprising two levels of networks: (1) a network architecture that carries
the telecommunications services (e.g., voice, data, etc.) and delivers the services to the
10 end users; and (2) a management network for managing the network architecture
wherein the management network comprises management processes and sub-
processes for network, service, and customer management. The network, service, and
customer management processes and sub-processes are modeled and engineered based
on the Service Provider operating environment, (paragraphs [0060] to [0069] and
15 [0101] to [0138]; and Figure 1 and Figures 8 to 14 of the present application).

 The computer-readable medium encoded with the computer program product
contains instructions for causing a computer to receive data and options for plurality
of network architectures, network management processes, and service and customer
management processes for business solutions for a telecommunications network;
20 engineer the plurality of network architectures, network management processes, and
service and customer management processes; determine business parameters for the
business solutions; and store and display the business parameters for the business
solutions for the telecommunications network.

 The options comprise technology alternatives for the network architectures
25 and choices for the network, service, and customer management networks for
managing the network architectures for the business solutions. The management
networks comprise the network management processes and the service and customer
management processes and their associated sub-processes that replicate today's
operations and management networks for Service Providers.

30 Accordingly, the operations costs for business solutions having mesh
network architecture (e.g., Figure 3 of the present application) or ring network
architecture (e.g., Figure 4 of the present application) would depend on the cost of the

management processes engineered for managing the mesh or ring network architecture. Hence, an analyst or a Service Provider would be able to compare technology alternatives for the network architectures and management strategies for the business solutions. The Service Provider would be able to quantify the savings of one business solution versus another and identify the areas for cost reduction. Additionally, by comparing the business solutions, the Service Provider would be able to determine the business solution for optimizing the operations and management for a selected network architectural technology for the telecommunications network.

A claimed computer program product comprising a computer-readable medium having stored thereon instructions for causing a computer to perform a process for assessing business solutions for a telecommunications network, **is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized**, and is thus statutory subject matter under 35 U.S.C. § 101. See *Lowry*, 32 F.3d at 1583-84, 32 USPQ2d at 1035 – MPEP 2106.01.

Claims 2-19 are all directly or ultimately dependent from independent claim 1 and are thus statutory subject matter under 35 U.S.C. § 101.

Claims 20-30:

Independent claim 20 and dependent claims 27 – 30 have been canceled without prejudice.

Claims 21-26 have been amended by introducing additional limitations to better define the invention and to clearly differentiate the present invention from the cited prior art references.

Claims 21-26 are all directly or ultimately dependent from independent claim 1, and are thus statutory subject matter under 35 U.S.C. § 101.

Claims 31-38:

Claim 31 as amended provides a method for assessing business solutions comprising alternative network architectures and management processes for a telecommunications network. The method comprises the steps of instructing a

computer to receive data and options for plurality of network architectures and network, service, and customer management processes; engineer the plurality of network architectures and the network, service, and customer management processes based on the input data and options; and determine suppliers' equipment and network, service, and customer management processes costs. The network, service, and customer management processes and their associated sub-processes are detailed in paragraphs [0101] to [0138] and shown in Figures 8 to 14 of the present application.

The method comprises the steps of instructing the computer to determine, based on the costs of the plurality of network architectures and the network, service, and customer management processes, business parameters for the business solutions; and store and display the business parameters for the business solutions for the telecommunications network, (paragraphs [0144] to [0151] and Figure 17 of the present application).

The method of the amended claim 31 teaches a process that is employed by the computer program product of independent claim 1 and is thus a statutory subject matter under 35 U.S.C. 101.

Claims 32-38 are all directly or ultimately dependent from independent claim 31 and are statutory subject matter under 35 U.S.C. § 101.

The Bilski's case:

In re Bilski's patent application that provides a method of hedging risks in commodities trading. The Courts concluded that Bilski's method was patent-ineligible because it did not "transform any article to a different state or thing and it did not produce *"a useful, concrete, and tangible result"*. The case is pending at the United States Supreme Court.

The Bilski's case **does not** apply to the present application as will be discussed below.

The OMCS tool (or the computer program product of independent claim 1) and the method of independent claim 31 disclosed in the present application produce a change in character or condition of a material object. This is because the material object of prior art tools is modeling, engineering, and costing of a network architecture, whereas, in the present application, the material object is modeling,

engineering, and costing of two level of networks: (1) a network architecture and (2) a management network for managing the network architecture.

Prior art tools and methods estimate operational expenditure (OPEX) for the network architecture as a percentage of expected revenue or capital expenditure (CAPEX), wherein the CAPEX is described as network architecture costs, costs to build, own and grow. Accordingly, network, service, and customer management processes costs for managing and operating the network architecture or topology are excluded from the analysis and the Service Provider would not be able to identify the areas for enhancing or reducing the network operating cost. Reducing the operating cost of a network is critical to the survival of any Service Provider because, for example, managing and operating of a fully mesh network topology is more expensive than managing and operating of a ring network topology.

Further, the tools and methods disclosed in prior arts would not enable the Service Provider to assess and quantify the difference between operating and managing of one network topology and another. Understanding the cost of the new network architecture or topology without understanding the cost of the management and operations of the new network architecture or topology is economically critical to evolving the services and business for the Service Provider.

Prior art does not offer any tools or methods for modeling, engineering, and costing of the management networks for managing the network architecture or topology because the management networks are complex to model, engineer, and cost, and that is why the Applicant disclosed in the present application a new approach for modeling the management networks, as detailed in paragraphs [0101] to [0138] and Figures 8 to 14 of the present application, and a new tool and method for engineering and costing alternative network architecture and management networks for business solutions for a telecommunications network.

The OMCS tool and method disclosed in the present application produce essential economic results in relation to trade, commerce, or industry, that is, *it produces "a useful, concrete, and tangible result"*. This is because the present invention teaches an OMCS tool and method for modeling, engineering and costing alternative network architectures and management networks which comprise network, service, and customer management processes and sub-processes for various business

solutions for a telecommunications network. In the present application, the cost for managing and operating the network architecture is integrated with the cost of the network architecture in the total cost of the business solution. The Service Provider would be able to identify the areas for enhancing or reducing the management and operating cost of the telecommunications network. Reducing the management and operating cost of a telecommunications network is critical to the survival of the Service Provider.

Accordingly, the OMCS tool and method disclosed in the present application produce a change in character or condition of a material object (that is, changing the character of the tools taught by prior arts by creating the modeling, engineering, and costing of two levels of networks: the network architecture that carries the telecommunications services (e.g., voice, data, etc.) and delivers the services to the end users; and the management network for managing the network architecture, wherein the management network comprises management processes and sub-processes for network, service, and customer management. Moreover, the OMCS tool and method produce ***“a useful, concrete, and tangible result”*** because the cost for managing and operating the network architecture is integrated with the cost of the network architecture in the total cost of the business solution. Hence, the Service Provider would be able to identify the areas for enhancing or reducing the management and operating cost of the telecommunications network which are critical to the survival of the Service Provider.

In the present application, the claimed invention as a whole is useful and accomplishes a practical application, that is, it produces a ***“useful, concrete and tangible result”*** – MPEP 2106.01, and hence is a statutory subject matter under 35 U.S.C. §101.

It is respectfully submitted that the non-statutory subject matter rejection of the claimed invention by the Examiner has been traversed. Accordingly, it is respectfully requested that the rejected under 35 U.S.C. 101 be withdrawn.

The rejection under 35 USC §103

Claims 1-10 and 15-38 have been rejected under 35 U.S.C. 103 (a) as being unpatentable over Ngi et al., U.S. Patent Application Publication Number 2003/0158765 A1 (hereinafter referred to as **Ngi**) in view of EURESCOM Project P901-PF Extended investment analysis of telecommunication operator strategies (hereinafter referred to as **EURESCOM**):

Deliverable 1: Investment analysis framework definition and requirements specification (hereinafter referred to as D1).

Deliverable 2: Investment Analysis Modeling (hereinafter referred to as D2).

The combined teachings of EURESCOM (D1 Volume 2 and D2 Volume 1 and Volume 2) and Ngi references **do not** produce the claimed invention as will be described below.

Please note that elements (c), (d), (e), and (f) of independent claim 1 correspond to elements (u), (v), (w), and (y) of independent claim 31, respectively. Therefore, the remarks/arguments in this paper are applicable to both elements (c), (d), (e), and (f) of independent claim 1 and elements (u), (v), (w), and (y) of independent claim 31. The elements (c), (d), (e), and (f) are used in the following discussion.

The Ngi reference

Ngi teaches an end-to-end network analysis tool that allows a network consultant to integrate link budget planning calculations with the network planning and business modeling phases of customer proposal generation. This integration provides for significantly reduced calculation times, more accurate business proposals, and the ability *to model many different network scenarios*. The benefits, savings, reduction in operational and capital costs and all the other elements of network savings relating to business parameters that are discovered may be summarized qualitatively and quantitatively in reports that may be presented to a customer company's senior management, in detailed or summary formats. This allows a network consultant to assist customers in migrating to a more profitable, efficient, effective, and end-user driven network, while providing a customer with proof in the

strength of their proposed solution and ability to deliver a low cost solution that maximizes the customer's return on investment, (Abstract, Ngi).

Independent claim1: Deficiencies of Ngi

5

- Ngi does not disclose “determining suppliers’ equipment costs for plurality of network architectures”:

10 Ngi teaches a network analysis and business planning software tool for bandwidth planning of optical network (abstract; figure 4A).

Ngi teaches network planning based on customer demand using generic network model to demonstrate the benefits of one solution versus other solution. The *solution is determined based on equipment list costs* as produced by the link budget (paragraphs 007, 056, 088, 100, 102, and 113 to 115 of Ngi).

15 Ngi teaches network planning based on customer (or Service Provider) demand using generic network model to *demonstrate the benefits of one network architecture or topology versus other network architecture or topology*, (Abstract; figure 4A; paragraphs [0031] and [0032] of Ngi). The network architecture or topology includes an identification of nodes and physical links in the topology. The
20 network architecture is determined based on equipment list costs as produced by the link budget (paragraphs [0007], [0015], [0016], [0018], [0021], [0022], and [0023] of Ngi).

Consequently, the main focus of the tool taught by Ngi is only on offering new products to the customers (or Service Providers) and comparing the costs of the
25 new products to the existing products in a network architecture or topology.

Accordingly, the limitation of independent claim 1, which recites “(c) determining suppliers’ equipment costs for said plurality of network architectures”, **is not found anywhere** in the Ngi reference.

30

- Ngi does not disclose “engineering network management processes and service and customer management processes for managing plurality of network architectures”:

5 The tool taught by Ngi teaches business solutions for network architecture or topology, wherein the capital expenditure (CAPEX) is described as architecture costs, costs to build, own and grow; and the *operational expenditure (OPEX) is described as architecture costs, costs to build, own and grow*, (paragraphs [0033] and [0097] and Table 2 of Ngi). Accordingly, *the costs for managing and operating the network architecture or topology are excluded from the analysis and the customer (or Service Provider) would not be able to identify the areas for enhancing or reducing the management and operating costs of the network*. Reducing the management and operating cost of a network is critical to the survival of any Service Provider because, for example, managing and operating of a fully mesh network topology is more
10
15 expensive than managing and operating of a ring network topology.

 Accordingly, the limitation of independent claim 1, which recites “(d) engineering the network management processes and the service and customer management processes, based on the data and options of (a), for managing said plurality of network architectures”, **is not found anywhere** in the Ngi reference.

20

- Ngi does not disclose “determining suppliers’ management processes costs for network management processes and service and customer management processes”:

25

 As discussed above, the operational expenditure (OPEX) is described as architecture costs, costs to build, own and grow, (paragraphs [0033] and [0097] and Table 2 of Ngi). Hence, the tool taught by Ngi would not enable the customer (or Service Provider) to assess and quantify the difference between operating and
30 managing of one network topology and another. Understanding the cost of the new network architecture or topology without understanding the cost of the management

and operations of the new network architecture or topology is economically critical to evolving the services and business for the customer (or Service Provider).

Accordingly, the limitation of independent claim 1, which recites “(e) determining suppliers’ management processes costs for the network management processes and the service and customer management processes”, **is not found anywhere** in the Ngi reference.

- Ngi does not disclose “ validating and calibrating data, options, and costs for plurality of network architectures, network management processes, and service and customer management processes”:

A careful reading of the Ngi reference will confirm that there is no mention or suggestion that the tool taught by Ngi discloses any validation or calibration of data, options, and costs for plurality of network architectures, network management processes, and service and customer management processes.

Accordingly, the limitation of independent claim 1, which recites “(f) validating and calibrating the data and options and the costs for the plurality of network architectures, network management processes, and the service and customer management processes”, **is not found anywhere** in the Ngi reference.

To sum up, the limitations of independent claim 1, which recite “(c) determining suppliers’ equipment costs for the plurality of network architectures; (d) engineering the network management processes and the service and customer management processes for managing the plurality of network architectures; (e) determining suppliers’ management processes costs for the network management processes and the service and customer management processes; and (f) validating and calibrating the data and options and the costs for the plurality of network architectures, network management processes, and the service and customer management processes”, **are not found anywhere** in the Ngi reference.

The EURESCOM reference

The EURESCOM project P901 main contribution is the *specification of recommended methodologies and models to be used in investment analysis of telecommunication operator strategies*. The specification is based on a survey and
5 assessment of relevant approaches and methodologies for the assessment of the economics of telecommunication operator investment projects, as described in D1, Volume 2, “Investment analysis framework definition and requirements specification”.

The EURESCOM Project P901, as described in (D1, Volume 2 and D2,
10 Volume 1 and Volume 2), provides framework and guidelines for high *level executive investment analysis modeling for investment, operation, administration, and maintenance cost*. The high level nature of the information necessitated the EURESCOM and PARTICIPANTS disclaimer at (D1, Volume 2: 2nd page, paragraph 5 and D2, Volume 1 and Volume 2: 2nd page, paragraph 5) which states that: “Neither
15 the PARTICIPANTS nor EURESCOM warrant that the information contained in the report is capable of use, nor that use of the information is free from risk, and accepts no liability for loss or damage suffered by any person using this information.”

Accordingly, a skilled person in the art reading EURESCOM Project P901 would not be able to use the information of the project and re-produce the results of
20 the project due to lack of details in the specification of various methodologies and models.

It should be noted that, for patents, the United States patent laws, 35 U.S.C. 112 states that “The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and
25 exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his/her invention.”

EURESCOM at (D1, Volume 2: page 49, paragraph 5; page 50, paragraph 5; page 86, paragraph 7) discloses high level guidelines and requirements for calculating
30 the cost of a network architecture. The methodology and model taught by EURESCOM identify a proprietary tool (that is, the INVAN (INvestment ANalysis of general telecommunication network) tool) as the tool to be used for calculating the

cost of the network architecture. The INVAN tool is a proprietary tool from previous studies and is not described in the EURESCOM reference.

The various methodologies, models, framework, and guidelines in the EURESCOM project P901 are based on the Telecom Operations Map, which uses the
5 ITU-T (International Telecommunication Union - Telecommunication Standardization Sector) TMN (Telecommunications Management Network) model to organize business processes.

EURESCOM at (D2, Volume 2: Sections 3.2.4 and 3.3 Tables 5, 6, and 7) illustrates 5 telecommunication layers of the Telecom Operations Map, which uses the
10 ITU-T TMN model to organize business processes. Table 5 identifies selected sources of running cost for the investment project which includes OA&M, provisioning, Churn, decommissioning, and leased facilities at each layer of the 5 telecommunication layers. Examples of business investments and OA&M processes at each layer of the 5 telecommunication layers are shown in Tables 6 and 7,
15 respectively.

Regarding the information in Tables 5, 6, and 7, EURESCOM at (D2, Volume 2: page 33, Section 3.3, paragraph 6) states that “Table guideline: The reader should notice that not all the processes are relevant for a specific investment project. For instance a network investment project *would not consider the services processes*
20 or takes just the most important ones. In opposite, a pure service investment project *would avoid including the network and infrastructure processes*. In addition, *all the process related to leased facilities or leased equipment should be ignored* by the investment process.”

EURESCOM at (D2, Volume 2: pages 32-33, paragraph 3) states that project
25 P901 **does not** cover all the businesses of a telecommunication company. Therefore, *several cost categories are not considered as a part of running or OA&M costs and are not described in the EURESCOM (D1, Volume 2 and D2, Volume 1 and Volume 2) reference*. The business of managing the network (e.g., network planning and development), managing the services (e.g., service planning and development), and
30 managing the customers (e.g., a trouble ticketing, a service assurance, performance monitoring, and reporting) are excluded from the investment, operation,

administration, and maintenance cost modeling and analysis for telecommunication operator strategies.

Accordingly, the methodologies, models, framework, and guidelines taught by EURESCOM exclude several critical elements of the businesses of the

5 Telecommunication Company (or Service Provider).

In particular, the methodologies and models taught by EURESCOM exclude the engineering and costing of managing and operating the network architecture and technology, that is, the engineering and costing of network, service, and customer management processes and sub-processes that are required for managing the network
10 architecture and technology.

The methodologies and models taught by EURESCOM include *selected attributes that are relevant to the costs of the network architecture and technology* and would not enable the telecommunication company (or Service Provider) to quantify the management and operating costs of the new network architectural
15 technology and identify the areas for enhancing or reducing the management and operating cost of the network architecture and technology which are critical to the survival of any telecommunication company (or Service Provider).

Accordingly, EURESCOM **does not** disclose any methodologies or models for selecting, engineering, and costing of network, service, and customer management
20 processes and sub-processes for managing the network architecture and technology because they are not relevant to the investment analysis of telecommunication operator strategies, see EURESCOM at (D2, Volume 2: pages 32-33, paragraph 3).

Independent claim1: Deficiencies of EURESCOM

25

- EURESCOM **does not** disclose “engineering network management processes and service and customer management processes for managing plurality of network architectures”:

30

EURESCOM at (D2, Volume 2: page 32, Table 5) discloses the following table for identification of sources of running costs:

Telecommunication layer	OA&M	Provisioning	Churn	Decommissioning	Leased facilities
Customer care management	*	*	*		
Service & Service management	*	*	*		*
Network and system management	*	*	*	*	*
Network elements & system elements	*	*	*	*	*
Physical network and infrastructure (cables, ducts, cabinets, buildings)	*	*		*	*

Table 5 - Identification of sources of running costs

- Table 5 illustrates 5 telecommunication layers of the Telecom Operations
- 5 Map of the ITU-T TMN model and selected attributes (OA&M, provisioning, churn, decommissioning, and leased facilities) from which the running costs for the methodologies and models in the project are originated. The focus, in these methodologies and models, is on the OA&M, provisioning, churn, decommissioning, and leased facilities which represent attributes for network architecture and
- 10 technology. These selected attributes are relevant to the costs of the network architecture and technology (e.g., architecture costs to build, own, and grow) and do not cover attributes for management and operations of the network architecture and technology for the Telecommunication Company.

- The OA&M costs are divided into maintenance and O&A (operations and
- 15 administration), wherein the maintenance comprises the cost of repair parts and the cost of repair work as function of the cost of labor, MTBR (mean time between repairs), and MTTR (mean time to repair). The operation & administration costs are included manually and typically driven by services in terms of the number of customers or the number of critical network elements, see EURESCOM at (D2,
- 20 Volume 2: pages 36-42, Sections 3.5-3.7; pages 42-54, Section 4).

- Accordingly, the limitation of independent claim 1, which recites “(d) engineering the network management processes and the service and customer management processes, based on the data and options of (a), for managing said plurality of network architectures”, **is not found anywhere** in the EURESCOM
- 25 reference.

- EURESCOM does not disclose “determining suppliers’ management processes costs for network management processes and service and customer management processes”:

5

EURESCOM at (D1, Volume 2: page 5, paragraph 1; page 14, paragraph 3 and D2, Volume 2: page 2, paragraph 1) teaches, in the cost model, the cost evolution of network components is described as a function of time and the network architecture cost is described as a time series of cost evolution and volume of each network
10 element. When building new network architecture or upgrading an existing one, an operator has a set of technologies to choose, see EURESCOM at (D2, Volume 2: page 3, paragraph 2).

The network architecture scenario is defined in a shopping list, which indicates how the network is rolled out during the study period. The shopping list
15 defines the amount of equipment and services needed in the network as a function of time. This is similar to Ngi (paragraphs [0007], [0015], [0016], [0018], [0021], [0022], and [0023]) where the network architecture is determined based on equipment list costs as produced by the link budget.

EURESCOM at (D2, volume 2: pages 36-42, Sections 3.5-3.7; pages 42-54, Section 4) describes CAPEX and OPEX as time series.
20

The methodologies and models taught by EURESCOM provide high level executive information and are based on various tools that were developed in previous studies for determining costs to build, own and grow a network architecture and technology. For example, the OA&M modeling is based on the use of a proprietary
25 tool (that is, OPTIMUM / TERA tool) from previous studies. Hence, a skilled person in the art reading the OA&M methodologies and modeling taught by EURESCOM at (D2, Volume 2: Sections 3 and 4, pages 30-54) would not be able to use the information of the project and re-produce the results of the project due to lack of details of the tools and the specification of various methodologies and models.

30 EURESCOM at (D2, Volume 2: pages 32-33, paragraph 3) clearly states that “....the focus is investment projects which are mainly based on services and networks. These projects **do not** cover all the businesses of a telecommunication company.

Therefore, several cost categories, listed below, **are not considered** as a part of running or OA&M costs and **are not described** with more details in this document:..... All planning processes (network planning and development, service planning and development).....”

5 Accordingly, the methodologies and models taught by EURESCOM exclude the costs of network planning and development, service planning and development, and other costs that are related to managing and operating the network, service, and customer of the network architecture that are critical to the businesses of a telecommunication company.

10 EURESCOM at (D2, Volume 2: pages 30-31, Section 3.2.2) discloses well-known high level framework for determining leased facilities costs and specified the parameters that may be used in determining the leased facilities costs. However, EURESCOM at (D2, Volume 2: page 33, Section 3.3, paragraph 6) states that “...all the process related to leased facilities or leased equipment should be ignored by the
15 investment process”.

Moreover, EURESCOM at (D2, Volume 2: pages 34-35, Section 3.4) discloses a common framework for network architecture cost modeling. In tables 2, 3, and 4, the cost factors and driving parameters are relevant to network architecture and technology costs to build, own, and grow.

20 Accordingly, the limitation of independent claim 1, which recites “(e) determining suppliers’ management processes costs for the network management processes and the service and customer management processes”, **is not found anywhere** in the EURESCOM reference.

25 • EURESCOM does not disclose “validating and calibrating data, options, and costs for plurality of network architectures, network management processes, and service and customer management processes”:

30 A careful reading of the EURESCOM reference (D1, Volume 2 and D2, Volume 1 and Volume 2) will confirm that there is no mention or suggestion of any methodologies, models, framework, guidelines, and requirements for validating and

calibrating data, options, and costs for plurality of network architectures; network management processes; and service and customer management processes and sub-processes.

Accordingly, the limitation of independent claim 1, which recites “(f)
5 validating and calibrating the data and options and the costs for said plurality of network architectures, the network management processes, and the service and customer management processes”, **is not found anywhere** in the EURESCOM reference.

10

Independent claim 1: Deficiencies of the combined teachings of Ngi and EURESCOM references

As previously discussed, Ngi **does not** teach elements (c), (d), (e), and (f) of
15 independent claim 1 of the claimed invention.

EURESCOM **does not** teach elements (d), (e), and (f) of independent claim 1 of the claimed invention. Then, the combined teachings of Ngi and EURESCOM references **do not** teach elements (d), (e), and (f) of independent claim 1 of the claimed invention.

20 It is clear that there is no motivation to combine the teachings of Ngi with EURESCOM and the combined teachings of EURESCOM and Ngi references **do not** teach the limitations of independent claim 1, which recite: “(d) engineering the network management processes and the service and customer management processes for managing the plurality of network architectures; (e) determining suppliers’
25 management processes costs for the network management processes and the service and customer management processes; and (f) validating and calibrating the data and options and the costs for said plurality of network architectures, the network management processes, and the service and customer management processes”, as in the claimed invention.

30 The combined teachings of Ngi and EURESCOM references fail to describe numerous elements in Applicant’s claims 1-38 of the claimed invention including:

- selecting, engineering, and costing network management processes and service and customer management processes for managing plurality of network architectures having various technologies (paragraphs [0134]-[0135], Figure 14, Tables 1410-1420; and paragraph [0140], Figure 15, Table 1510 of the present application);
- determining a network management processes cost which comprises costs of performing installation, testing and repair, inside and outside maintenance, network engineering and provisioning for each network element in the network architecture, and wherein the costs are determined based on whether the operations of each of the network management processes and sub-processes is performed manually, using mechanized systems (or operations support systems (OSS)) or both based on the Service Provider operating environment (paragraph [0136], Figure 14, Table 1430 of the present application);
- determining a service and customer management processes cost which comprises costs of performing performance management (PM), fault management (FM), Service activation and provisioning (SAP), network inventory management (NIM), work order management (WOM), and customer relationship management (CRM) for each link in the network architecture, and wherein the costs are determined based on whether the operations of each of the service and customer management processes and sub-processes is performed manually, using mechanized systems (or operations support systems (OSS)) or both based on the Service Provider operating environment (paragraphs [0101]-[0132], Figures 8-13, Tables 800-1300 of the present application);
- determining a management processes cost which comprises a network management processes cost and a service and customer management processes cost; determining OPEX, wherein the OPEX comprises a management processes cost, a leasing cost, and sales, general and administration (SG&A) expenses; determining CAPEX, wherein the CAPEX comprises a network architecture cost, taxes, interests and depreciation and amortization (D/A) expenses; and other financial statistics; and

- validating and calibrating data, options and costs for the network architectures, network management processes, and service and customer management processes.

5

Applicant Arguments with regard to the rejection under 35 USC §103

To establish a *prima facie* case of obviousness of a claimed invention, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991) - MPEP §706.02(j).

15 **Regarding independent claims 1 and 31:**

In view of the utter failure of Ngi to describe the numerous elements in Applicant's independent claim 1 discussed above, and the failure of the EURESCOM reference to cure the deficiencies in the Ngi reference, the subject matter of independent claim 1 cannot be obvious.

20 Since independent claim 1 is nonobvious over the combined teachings of Ngi and EURESCOM references for the reasons set forth above, independent claim 31 is likewise nonobvious because independent claim 31 teaches a process that is employed by independent claim 1. The combined teachings of Ngi and EURESCOM references do not produce the limitations of independent claim 31, as in the claimed invention.

25

Regarding claims 2-10, 15-19, 21-26, and 32-38:

Claims 2-10, 15-19, 21-26, and 32-38 are all directly or ultimately dependent from independent claim 1 and independent claim 31, respectively. If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir 1988) – MPEP 2143.03. Since independent claims 1 and 31 are nonobvious over Ngi in view of EURESCOM for the reasons set forth above, dependent claims 2-10, 15-19, 21-26,

and 32-38 are likewise nonobvious, and dependent claims 2-10, 15-19, 21-26, and 32-38 rejection should be reversed.

5 **Regarding claims 11-14:**

Claims 11-14 have been rejected under 35 U.S.C. 103 (a) as being unpatentable over Ngi in view of EURESCOM and further in view of Arbel et al., U.S. Patent Application Publication Number US 2004/0008673 A1 (hereinafter referred to as Arbel).

10

Claims 11-14, which are all directly or ultimately dependent from independent claim 1, recite "... a footprint cost...". Arbel at ([0025] and [0074]) has been cited for allegedly disclosing costs relating to footprints. Since independent claim 1 is nonobvious under 35 U.S.C. 103 over Ngi in view of EURESCOM for the reasons set forth above, and claims 11-14, which are dependent from independent claim 1, are likewise nonobvious, and since Arbel does not cure the numerous deficiencies of Ngi and EURESCOM, claims 11-14 rejection should be reversed. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir 1988) – MPEP 2143.03.

15

20

Conclusion

Ngi fails to disclose several elements of the claimed invention. In particular, Ngi fails to disclose elements (c), (d), (e), and (f) of independent claim 1 of the claimed invention.

25

EURESCOM fails to disclose several elements of the claimed invention. In particular, EURESCOM fails to disclose elements (d), (e), and (f) of independent claim 1 of the claimed invention.

Arbel discloses costs relating to footprints.

30

The combined teachings of Ngi, EURESCOM, and Arbel references **do not** show or suggest every limitation in the claimed invention. Hence, all rejections and objections of the Examiner are traversed.

Claims 1-38 are pending in this application.

Claims 1-19 have been amended to improve clarity.

Claim 20 and claims 27-30 have been canceled without prejudice.

Claims 21-26 and 31-38 have been amended to improve clarity.

5

Reconsideration of all pending claims is respectfully requested

In view of the above amendments and remarks, and having dealt with all of
the matters raised by the Examiner, early reconsideration and allowance of this
10 application is respectfully requested.

Respectfully submitted,

/Omayma E. Moharram/

15 Omayma E. Moharram, Ph.D., P.Eng,
RR 1 STN MAIN,
225 Spruce Crescent
Carleton Place, Ontario, K7C 3P1
CANADA

20

Phone: 613-253-4102

Email: omayma@sympatico.ca